

Patent Claims

1. Security paper with a general fiber density ( $F_0$ ) for manufacturing a document of value or security document, as for example bank note, check, share, identity card, ticket for public transport, admission ticket and the like, comprising a bar code (3) consisting of information-conveying bars (5) separated from each other by separating fields (6), characterized in that the separating fields (6) are incorporated as a watermark in the security paper, so that the fiber density ( $F$ ) of the security paper in the area of these separating fields (6) deviates from the general fiber density ( $F_0$ ).
2. Security paper according to claim 1, wherein the fiber density ( $F$ ) of the security paper in the areas of the information-conveying bars (5) deviates in a different positive or negative direction from the general fiber density ( $F_0$ ) as compared to the areas of the separating fields (6).
3. Security paper according to claim 2, wherein the fiber density ( $F$ ) of the security paper in the areas of the information-conveying bars (5) is higher and in the areas of the separating fields (6) lower than the general fiber density ( $F_0$ ).
4. Security paper according to claim 1, wherein the fiber density ( $F$ ) of the security paper in the areas of the information-conveying bars (5) corresponds to the general fiber density ( $F_0$ ).
5. Security paper according to one of the claims 1 to 4, wherein the separating fields (6) are more narrow than the information-conveying bars (5).
6. Security paper according to one of the claims 1 to 5, wherein the security paper when viewed in transmitted light at least in one of the separating fields (6) appears lighter than in an area of the security paper with the general fiber density ( $F_0$ ), and at least in one of the other separating fields (6) appears darker than in an area of the security paper with the general fiber density ( $F_0$ ).
7. Security paper according to one of the claims 1 to 6, wherein an information-

conveying bar (5) located at the boundary of the bar code (3) has a characteristic property as to indicate, which information content („0“, „1“) is assigned to each of the various bars (5) of different width of the bar code (3).

8. Security paper according to claim 7, wherein the characteristic property is the width and/or fiber density of the bar located at the boundary.
9. Security paper according to one of the claims 1 to 8, wherein the bar code (3) is a two-dimensional bar code.
10. Security document or document of value (1) comprising a security paper according to one of the claims 1 to 9.
11. Security document or document of value according to claim 10, selected from the group of documents: bank note, check, share, identity card, ticket for public transport, admission ticket.
12. Method for manufacturing a security paper with a general fiber density ( $F_0$ ) for a security document or document of value (1), such as for example bank note, check, share, identity card, ticket for public transport, admission ticket and the like, with a bar code (3) consisting of information-conveying bars (5) separated from each other by separating fields (6), wherein the security paper in the areas of the separating fields (6) is produced as a watermark with a fiber density ( $F_0$ ) deviating from the general fiber density ( $F^+$ ,  $F^-$ ).
13. Method according to claim 12 using a papermaking screen (8), which is formed in a special way in the areas of the separating fields (6), so that in this areas the deposit of fibers for producing a watermark is influenced positively or negatively in the security paper to be manufactured.
14. Method according to claim 13, wherein the papermaking screen (8) in the areas of the information-conveying bars (5) is formed in such a way that in these areas the deposit of fibers is influenced neither positively nor negatively.
15. Method according to claim 13, wherein the papermaking screen (8) in the

REPLACES BY  
ART 34 ART 37

areas of the information-conveying bars (5) is embossed in such a way that the deposit of fibers in these areas is influenced positively.

16. Method according to one of the claims 12 to 14, wherein the papermaking screen (8) at least in the area (9) of one of the separating fields (6) is embossed in such a way that the deposit of fibers is influenced positively.
17. Method according to one of the claims 1 to 16, wherein the papermaking screen (8) at least in the area of one of the separating fields (6) is equipped with an electrotpe (7), so that the deposit of fibers is influenced negatively.
18. Papermaking screen (8) for manufacturing a security paper with a bar code (3) consisting of information-conveying bars (5) separated from each other by separating fields (6), wherein the papermaking screen (8) has areas for producing the separating fields (6), in which the papermaking screen is especially formed so as to positively or negatively influence the deposit of fibers in these areas for producing a watermark in a paper to be manufactured with the papermaking screen.
19. Papermaking screen according to claim 18, wherein the papermaking screen in its areas producing the information-conveying bars (5) is formed in such a way, that in these areas the deposit of fibers is not especially influenced and a watermark is not produced in a paper to be manufactured with the papermaking screen.
20. Papermaking screen according to claim 18, wherein the papermaking screen in its areas producing the information-conveying bars (5) is embossed, so as to positively influence the deposit of fibers in these areas for producing a watermark in a paper to be manufactured with the papermaking screen.
21. Papermaking screen according to claim 18 or 19, wherein the papermaking screen is embossed (9) in at least one of its areas producing the separating fields (6), so as to positively influence the deposit of fibers for producing a watermark in a paper to be manufactured with the papermaking screen.

REPLACED BY  
ART 34 ANDT  
22.

22. Papermaking screen according to one of the claims 18 to 21, wherein the papermaking screen at least in one of its areas producing the separating fields (6) is equipped with an electrotpe (7), so as to negatively influence the deposit of fibers for producing a watermark in a paper to be manufactured with the papermaking screen.
23. Papermaking screen according to one of the claims 18 to 22, wherein the areas of the papermaking screen for producing the separating fields (6) are formed more narrow than those areas of the papermaking screen for producing the information-conveying bars (5).
24. Bar code (3) in the form of a watermark, comprising the information-conveying bars (5), separated from each other by separating fields (6), characterized in that the separating fields are formed as watermarks.
25. Bar code according to claim 24, wherein the separating fields (6) are more narrow than the information-conveying bars (5).
26. Security paper according to one of the claims 1 to 9, characterized in that it has an additional storage medium, such as for example an area for the magnetic storage of information or a microchip.
27. Security document or document of value according to one of the claims 10 or 11, characterized in that the document has an additional storage medium, such as for example an area for the magnetic storage of information or a microchip.